

REMARKS

Claims 1, 2, 4, and 10 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Tennent *et al.* (US 6,432,866), hereinafter Tennent. In addition, claims 3 and 5-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tennent in view of Chen *et al.* (US 6,346,136), hereinafter Chen. Finally, claims 7-9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tennent in view of Dzenis *et al.* (US 6,265,333).

Before addressing the Examiner's substantive rejections, the Applicants submit that claim 5 has been canceled and that all rejections made thereto are now moot.

After careful consideration, the Applicants have amended claim 1 for clarification purposes, so as to better distinguish it over the cited references. Specifically, claim 1 recites a first element fiber and a second element nanotube that extends from the first element fiber to a tip, such that the second element nanotube has at least one metal particle disposed thereon.

In contrast, the carbon structures of Tennet do not provide at least one metal particle that is disposed on the second element nanotube, as is recited in claim 1. That is, Tennet does not teach or suggest disposing at least one metal particle on a second element nanotube that extends from a first element fiber, as in claim 1.

With regard to Chen, it teaches a method for forming metal particles and fibers by mixing at least one nanotube/nanofibers with at least one metal salt to form a mixture, which is calcinated and reduced at an elevated temperature and under a flow of inert or reductive gas. That is, Chen teaches the use of nanofibers and nanotubes as templates for the synthesis or formation of metal nanoparticles and fibers. This is in clear contrast to disposing metal particles onto a nanotube, as recited in claim 1. That is, the Applicants' invention relates to disposing metal particles on nanotubes to invoke the growth of additional nanotubes therefrom, and is not concerned with the formation of metal particles themselves as in Chen. As such, it is submitted that Chen, nor any other of the cited references, teach or suggest disposing metal particles on a nanotube as is recited in claim 1. Therefore, because each and every limitation of claim 1 is not taught or suggested individually or by the combination of the cited references, the Applicants respectfully request that the rejection of claim 1, and all claims depending therefrom, be withdrawn.

With regard to dependent claim 10, it has been amended to recite that a third element nanotube extends from the second element nanotube at the location where the at least one metal particle is disposed. As such, it is submitted that the cited references do not individually, or by

their combination, teach or suggest that a third element nanotube extends from a second element nanotube at the location where the at least one metal particle is disposed, and as such, claim 10 is in proper form for allowance.

In addition, new claim 33 has been added, which recites that the at least one metal particle is present at the tip. It is submitted that the cited references do not individually, or by their combination, teach or suggest a second element nanotube that extends from a first element fiber, such that the tip of the second element nanotube has at least one metal particle present thereon. As such, it is submitted that claim 33 is in proper form for allowance.

New claim 34 has also been added to set forth that the at least one metal particle is disposed on a sidewall of the second element nanotube. It is submitted that the recitation of claim 34 is not taught or suggested individually or by the combination of the cited references. As such, the Applicants respectfully request that the rejection of such claims, and all claims depending therefrom, are in proper form for allowance.

It is also submitted that various dependent claims have been amended for grammatical purposes only and that no new matter has been entered.

The Applicants also submit that the information disclosure statement (IDS) submitted contemporaneously herewith cites the reference entitled “Carbon Nanotubes Formed on Carbonized Electrospun Polymer Nanofibers”, Polymer Preprints, vol. 44, no. 2 by Haoqing Hou and Darrell H. Reneker, published September 2003, hereinafter reference 1. Furthermore, the inventive entity of Haoqing Hou and Darrel H. Reneker, who are the authors of reference 1, is the same inventive entity named as inventors in the instant patent application. That is, the authors named in reference 1 are the same individuals named as inventors in the instant patent application, and as such, reference 1 is not “by another”. Therefore, reference 1 is not prior art under 35 U.S.C. § 102(a). Furthermore, the Applicants can furnish a declaration under 37 C.F.R. § 1.132 in support of the facts presented above, should the Examiner deem it necessary.

The Applicants also submit that because the instant patent application claims priority through PCT application No. PCT/US2004/034274 to a US provisional application no. 60/511,977 filed on October 16, 2003, the critical date of the instant application (which is one year prior to the Applicants’ earliest effective filing date under 35 U.S.C. § 102(b) of October 16, 2003), is October 16, 2002. Thus, because the September 2003 publication date of reference 1 is not prior to the critical date of October 16, 2002 it is not prior art under 35 U.S.C. § 102(b).

In view of the foregoing, it is the Applicants' position that claims 1-10 and 33-34 are in condition for allowance. Reconsideration by the Examiner and the issuance of a formal Notice of Allowance is most earnestly solicited. If any further issues remain after this amendment, a telephone call to the undersigned would be appreciated.

In the event that the enclosed fee is not sufficient or that any other fees are due with respect to the filing of this communication, the Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 18-0987. If a withdrawal is required from Deposit Account No. 18-0987, the undersigned attorney respectfully requests that the Commissioner of Patents and Trademarks cite Attorney Docket No. UOA.474.US for billing purposes.

Respectfully submitted,

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